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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,356	11/16/2000	Helmut Horst Tews	00P9031US	4856

7590 10/04/2002

Siemens Corporation  
Intellectual Property Department  
186 Wood Avenue South  
Iselin, NJ 08830

EXAMINER

CHEN, JACK S J

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 10/04/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/714,356

Applicant(s)

Tews et al.

Examiner

Jack Chen

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Feb 21, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above, claim(s) 3 and 6-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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### **DETAILED ACTION**

1. In response to the communications dated November 16, 2000 through February 21, 2000, claims 1-9 are active in this application.
2. Claims 3, 6-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 5.

#### ***Oath/Declaration***

3. Oath/Declaration filed on November 16, 2000 has been considered.

#### ***Specification***

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.  
  
The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

***Claim Objections***

5. Claims 1, 2, 4, 5 are objected to because of the following informalities:

Regarding claims 1, 2, the term "shadow effect" should change to ---shadow effect--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 2, 4-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 16, the term "exposed regions" lack antecedent basis.

Regarding claim 1, line 17, the phrase "said patterned hard mask layer" should change to --said patterned hard mask nitride layer--.

Regarding claim 1, line 21, the phrase "the isolation trench and the capacitor trench" lack antecedent basis.

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Regarding claim 1, lines 23-24, the phrase "depositing an oxide layer ...of the isolation trench" is unclear since applicant has not defined which portions are the unfilled portions.

Regarding claim 1, line 26, the phrase "said patterned hard mask" should change to --said patterned hard mask nitride layer--.

Regarding claim 1, lines 28-29, the phrase "planarizing said ...and forming a pad nitride strip" is unclear (where?).

Regarding claim 1, lines 31-33, the phrase "forming a ...the pad nitride has been stripped off" is unclear and confusing.

Regarding claim 1, page 10, line 9, the phrase "the inner part of the gate area" lack antecedent basis.

Regarding claim 1, page 10, lines 9-10, the phrase "the angled nitrogen dose" and "the Shadow part"" lack antecedent basis.

Regarding claim 1, page 10, lines 6-13, the phrase "affecting ...all exposed oxide areas" is unclear and confusing.

Regarding claim 1, page 10, line 16, the term "the masked region" lack antecedent basis.

Regarding claim 1, page 10, lines 18-23, the phrase "affecting...in the remaining non-shadowed area" is unclear and confusing.

Regarding claim 2, lines 3-4, the phrase "said semiconductor or wafer substrate" lack antecedent basis.

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Regarding claim 2, lines 1-4, the phrase "wherein...said semiconductor or wafer substrate" is unclear and confusing since there are two implanting steps.

Regarding claims 4-5, the term "said oxidation" lack antecedent basis.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9. Claims 1, 2, 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by applicant's admitted prior art.

Due to the 112 problems, as best can be understood by the examiner are as following:  
applicant's admitted prior art disclosed the claimed limitation, see page 1 to 4.

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10. Claims 1, 2, 4-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al., U.S./6,323,106 B1 or Kim, U.S./6,413,826 B2.

Due to the 112 problems, as best can be understood by the examiner are as following:  
Huang et al. disclosed the claimed limitation, see figs. 1-7, cols. 1-10; Kim also disclosed the claimed limitation, see fig. 1-19, cols. 1-14.

### *Conclusion*


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Chen whose telephone number is (703) 308-5838. The examiner can normally be reached on Monday-Friday (alternate Monday off) from 8:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri, can be reached on (703)306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

  
Jack Chen

October 1, 2002

  
JACK CHEN  
PATENT EXAMINER